Listing of the claims

This listing of claims provided below will replace all prior versions.

(currently amended) A method of achieving an immunomodulatory effect, achieving an
antineoplastic effect, or inhibiting hyperproliferative cell growth in a patient in need
thereof, comprising administering to said patient an effective amount of a compound of
formula I formulae I to XVII or a pharmaceutically acceptable salt thereof

$$(Z_2)_n \xrightarrow{B} \xrightarrow{A} \xrightarrow{A} \xrightarrow{D} (Z_2)_n \tag{I}$$

- B is a phenyl ring,
- D is a phenyl ring or a 5-membered-saturated or partially or fully unsaturated heterocyclic ring containing 1, 2 or 3 heteroatoms selected from O, S, and N,
- A is, in each case independently of each other, a 5-membered saturated or partially or fully unsaturated heterocyclic ring containing 1 [[,]] or 2 or 3 heteroatoms selected from O, S, and N,
- Q is a bond or an alkylene or alkenylene group containing 1-5 carbon atoms, which is optionally substituted with =O, and in which optionally a carbon atom is replaced with an N atom,
- Z_1 is, in each case independently, $-NH_2$, =O, =NH, or =N-phenyl, phenyl, or alkyl containing 1 to 5 carbon atoms,
- is, in each case independently, -OH, halogen, alkyl containing 1-5 carbon atoms, or

 CO₂H which is optionally substituted with halogen, and/or substituted with =O and/or

 OH, and in which one C atom is optionally replaced with and O atom,
- Z₃ is, in each case independently, alkyl containing 1-5 carbon atoms, and
- n is, in each case independently, 0, 1, 2, or 3[[;]]

$$G_1 \qquad Q \qquad (Z_2)_m \qquad (II)$$

$$G_3 \qquad (Z_1)_n \qquad (II)$$

G₁, G₂, and G₃ are, in each case independently, C, O, S, or N,

b is a phenyl ring or a 5- or 6-membered saturated or partially or fully unsaturated heterocyclic ring containing 1, 2 or 3 heteroatoms selected from O, S, and N,

Q is a straight chain or branched alkylene or alkenylene group containing 1-5 carbon atoms, which is optionally substituted with =O and/or -OH, and in which optionally 1 or 2 carbon atoms, independently of each other, are replaced with an N or S atom,

Z₁—is, in each case independently, =O, halogen, or an alkyl group containing 1-5 carbon atoms, which is optionally substituted with =O and/or -OH,

Z₂—is, in each case independently, =O, or an alkyl group containing 1-5 carbon atoms, which is optionally substituted with =O and/or -OH,

$$m = is 0, or 1;$$

$$G_{6}$$
 G_{5}
 G_{4}
 G_{1}
 G_{2}
 G_{3}
 $(Z_{1})_{n}$
 $(Z_{2})_{n}$
 $(Z_{3})_{m}$

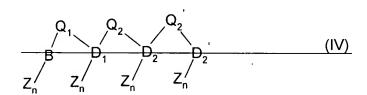
wherein,

G₁, G₂, G₃, G₄, G₅ and G₆ are, in each case independently, C, O, S, or N, such that four or five of G₁, G₂, G₃, G₄, G₅ and G₆ are C atoms and the remaining G₁, G₂, G₃, G₄, G₅ and G₆ are O, S, or N,

Q is a bond or a straight chain or branched alkylene or alkenylene group containing 1-10

earbon atoms which is optionally substituted with =O in one or two places, and in which optionally 1 or 2 carbon atoms, independently of each other, are replaced with an N or O atom, and in which optionally a carbon atom is replaced with a 6 membered heterocyclic group containing 1 or 2 nitrogen atoms when the alkylene or alkenylene group is a straight chain group;

- Z₁— is, in each case independently, OH, halogen, or an alkyl group containing 1-5 carbon atoms,
- is, in each case independently, =O, halogen, or an alkyl group containing 1-10 carbon atoms which is optionally substituted with =O in one or two places and/or OH, and in which optionally 1 or 2 carbon atoms, independently of each other, are replaced with an N and/or S atom.
- Z₃ is, in each case independently, OH, halogen, NO₂, an alkyl group containing 1-5 carbon atoms, in which optionally a carbon atom is replaced with an O atom, and which is optionally substituted with =O in one or two places, or is O phenyl, wherein the phenyl group in the O phenyl is optionally substituted with an NO₂ group,



wherein,

B is-a-phenyl ring,

- D₁— is a phenylene ring or a 6-membered saturated or partially or fully unsaturated heterocyclic ring containing 1, 2, or 3 heteroatoms selected from O, S, and N,
- D₂ and D₂'—are, each independently of each other, absent or a phenyl or phenylene ring or a 5or 6-membered saturated or partially or fully unsaturated heterocyclic ring containing 1, 2 or 3-heteroatoms selected from O, S, and N,

Q₊ is a bond or a branched or straight chain alkylene or alkenylene group containing 1-10 carbon atoms, which is optionally substituted with 1 to 5=O and/or OH groups, in which optionally 1, 2, or 3 carbon atoms are, in each case independently, replaced with an N, O or S atom, wherein S is optionally substituted with 1 or 2=O groups,

Q₂ and Q₂' are, each independently of each other, a bond or a branched or straight-chain alkylene group containing 1-5 carbon atoms, which is optionally substituted with an =O group, in which optionally a carbon atom is replaced with an N, S, or O atom, wherein Q₂ is absent when D₂ is absent and Q₂' is absent when D₂' is absent,

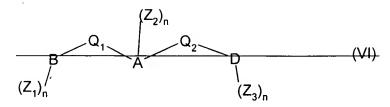
Z—is, in each case independently, =O, =S, OH, NH₂, -NO₂, C≡N, -SO₃H, is halogen, or a straight chain or branched alkyl or alkenyl-group containing 1 to 10, which is optionally substituted with 1 to 3 =O and/or OH groups, and in which optionally a carbon atom is replaced with an N, O or S atom, or is a cyclic alkyl group containing 3 carbon atoms,

is, in each case independently, 0, 1, 2, 3, 4 or 5;

wherein,

Z is, in each case independently, -NO₂, an alkyl containing 1 to 5 carbon atoms, in which optionally a carbon atom is replaced with an O atom, and which is optionally substituted with an =O group,

A is a straight chain alkylene group containing 1 to 5 carbon atoms, and n is 1, 2 or 3;



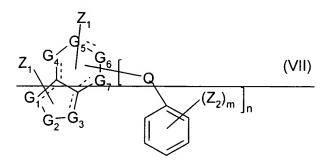
B is a phenyl ring,

D— is absent, or is a phenyl ring or a 6-membered saturated or partially or fully unsaturated heterocyclic ring containing 1, 2, or 3 heteroatoms selected from O, S, and N,

A is a 5-membered saturated or partially or fully unsaturated heterocyclic ring containing 1, 2, 3 or 4 heteroatoms selected from O. S. and N.

- Q₁-and Q₂—are, in each case independently of each other, a bond or a straight chain or branched alkylene group containing 1-5 carbon atoms, in which optionally a carbon atom is replaced with an O, N or S atom, and in which optionally 1 or 2 -C- groups are replaced with -C= or -C groups, and which is optionally substituted with an -O group, wherein O₂ is absent when D is absent.
- Z₁ is, in each case independently, -NO₂, OH, halogen, or an alkyl group containing 1-5 carbon atoms, which is optionally substituted with up to 3 =O and/or OH groups, and in which optionally a carbon atom is replaced with and N, S or O atom,
- Z₂— is, in each case independently, -NH₂, -OH, =NH, =O, =S, phenyl, halogen, or an alkyl group containing 1-5 carbon atoms, which is optionally substituted with up to 3 =O and/or OH groups, and in which optionally a carbon atom is replaced with an S atom,
- is, in each case independently, =O, -OH, NO₂, NH₂, halogen, or an alkyl-group containing 1-5 carbon atoms, which is optionally substituted with up to 3 =O and/or OH groups, and in which optionally a carbon atom is replaced with an O atom, and

n is, in each case independently, 0, 1, 2 or 3;

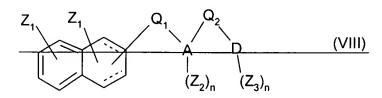


G₁ to G₂ are, in each case independently, C, O, S, or N, wherein at least 3 of G₁ to G₂ are C atoms,

Z₁ is, in each case independently, absent, or =0, =NH or an alkyl group containing 1 to 5 carbon atoms.

Z₂ is, in each case independently, a straight chain or branched alkyl group containing 1 to 5 earbon atoms, in which optionally a carbon atom is replaced with an O atom, and which is optionally substituted with 1 or 2 = O and/or OH groups,

Q is, in each case independently, a bond or an alkylene group containing 1-5 carbon atoms, which is optionally substituted with =O, in which optionally 1, 2, or 3 carbon atoms are, in each case independently, replaced with an N or S atom, wherein S is optionally substituted with 1 or 2 =O groups, and



wherein,

A is a 5-membered saturated or partially or fully unsaturated heterocyclic ring containing 1, 2 or 3 heteroatoms selected from O, S, and N, or is a C₁₀ aromatic bi-cyclic ring containing 1, 2 or 3 heteroatoms selected from O, S, and N,

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- D is absent or is a fully or partially saturated or unsaturated cyclic ring containing 6 or 7 carbon atoms.
- Q₁ and Q₂ are, each independently of each other, a bond or a straight chain or branched alkylene group containing 1-10 carbon atoms, which is optionally substituted with an =O group, and in which optionally 1, 2 or 3 carbon atoms, independently of each other, are replaced with an N or O atom, and wherein optionally 1-3 carbon atoms are replaced with a -C= and/or =C, and/or when the alkylene group is straight chain with a phenyl group, wherein O₂ is absent when D is absent.
- Z₁——is, in each case independently, absent or an alkyl group containing 1 to 5 carbon atoms, in which optionally a carbon atom is replaced with an -O-group, and which is optionally substituted with one or two -O or OH groups,
- Z₂—is, in each case independently, =O or an alkyl group containing 1-5 carbon atoms, which is optionally substituted with =O in one or two places and/or -OH,
- Z₃ is halogen, or an alkyl group containing 1-to-5 carbon atoms, which is optionally halogenated, and

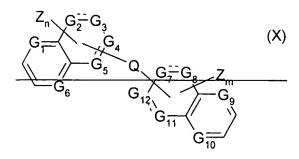
n is 1 or 2;



wherein.

- A is a 5- or 6- membered saturated or partially or fully unsaturated heterocyclic ring containing 2 or 3 heteroatoms selected from S and N,
- Z is, in each case independently, a straight chain or branched alkyl group containing 3-5 carbon atoms, which is substituted with =O and/or OH groups, and in which a carbon atom is replaced with an S atom, and

n = is 1, 2, or 3;



G₁ to G₁₂ are, each independently of each other, C, N, S or O,

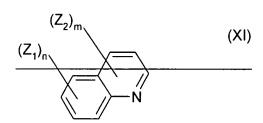
Z is, in each case independently, an alkyl containing 1 to 5 carbon atoms, which is optionally substituted with 1 to 2 =O and/or OH groups,

Q - is a bond or an alkylene group containing 1 to 5 carbon atoms,

m 0, 1, 2 or 3,

n 0, 1, 2 or 3, such that

 $m+n-\geq 1$;



wherein,

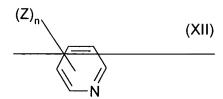
Z₁ is, in each case independently, halogen, -NO₂ or -OH,

Z₂ is, in each case independently, an alkyl-group containing 1-5 carbon atoms, which is optionally substituted with an =O and/or -OH group, and in which optionally a carbon atom is replaced with an S atom,

n is 0, 1, 2, or 3,

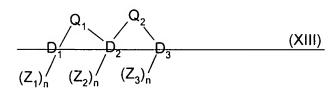
m is 0, 1, 2, or 3, and

n + m is 3 or more:



Z——is, in each case independently, -C≡N, halogen, or an alkyl group containing 1-5 carbon atoms, which is optionally substituted with halogen, and/or is substituted with one or more =O and/or OH groups, and in which optionally a carbon atom is replaced with an S atom, and

n is 2, 3, 4 or 5;



wherein.

- D₁——is a 5- or 6-membered saturated or partially or fully unsaturated heterocyclic ring containing 1, 2, or 3 heteroatoms selected from O, S, and N,
- D₂— is a 6-membered saturated or partially or fully unsaturated heterocyclic ring containing 1, 2, or 3-heteroatoms selected from O, S, and N, or is optionally a phenylene group when D₃ is present,
- D₃ is absent or a 5- or 6-membered saturated or partially or fully unsaturated heterocyclic ring containing 1, 2, or 3 heteroatoms selected from O, S, and N,
- Q₊ is -O , or a straight chain alkylene group containing 1-5 carbon atoms, in which optionally a carbon atom is replaced with an N, O or S atom, and which is optionally substituted with an =O atom,
- Q₂ is absent when D₃ is absent or is a bond or an -O group,
- Z₁—is, in each case independently, =O or halogen,
- Z₂—is, in each case independently, =O, C=N, COOH, -NO₂ or halogen,
- Z₃ is, in each case independently, halogen, and is absent when D₃ is absent, and

n -- is, in each case independently, 0, 1, 2, or 3;

wherein,

B is a phenylene group,

Q is a straight chain alkylene group containing 1-10 carbon atoms, in which optionally up to three carbon atoms are replaced with an N, O or S atom, and which is optionally substituted with 1 or 2 = O groups,

Z is, in each case independently, halogen, or an alkyl group containing 1-5 carbon atoms, in which optionally a carbon atom is replaced with an O atom,

wherein,

b is, a 6-membered saturated or partially or fully unsaturated heterocyclic ring containing 1, 2, or 3 heteroatoms selected from O, S, and N,

$$\frac{Z}{is} = 0$$

Q is, each independently, C or N, wherein,

Z₁ is a phenyl group, or 2 of Z₁ together form with the Q atoms to which they are bound a 6membered aromatic ring containing only C atoms,

Z₂ is halogen, preferably Cl, and

n - is 1, or 2;

wherein,

D is, a carbocyclic group containing 8 to 10 carbon atoms, and

R—— is OH or an alkyl group containing 1 to 5 carbon atoms, in which optionally a carbon atom is replaced with an N or O atom or with a phenyl group, and which is optionally substituted with 1 to 2 = O and/or OH groups.

2. (currently amended) A method of <u>inhibiting modulating</u> the binding of a p56^{lck} molecule via an SH2 domain thereof to a corresponding cellular binding protein, or <u>inhibiting modulating</u> the activity of a p56^{lck} molecule via an SH2 domain thereof, comprising administering a compound of <u>formula I formula I to XVII</u> or a pharmaceutically acceptable salt thereof

$$(Z_2)_n \xrightarrow{B} A \xrightarrow{A} O \xrightarrow{D} (Z_2)_n$$
 (I)

- B is a phenyl ring,
- D is a phenyl ring or a 5-membered saturated or partially or fully unsaturated heterocyclic ring containing 1, 2 or 3 heteroatoms selected from O, S, and N,
- A is, in each case independently of each other, a 5-membered saturated or partially or fully unsaturated heterocyclic ring containing 1[[,]] or 2 or 3 heteroatoms selected from O, S, and N,
- Q is a bond or an alkylene or alkenylene group containing 1-5 carbon atoms, which is optionally substituted with =O, and in which optionally a carbon atom is replaced with an N atom,
- Z_1 is, in each case independently, $-NH_2$, =O, =NH, or =N phenyl, phenyl, or alkyl containing 1 to 5 carbon atoms,
- is, in each case independently, -OH, halogen, alkyl containing 1-5 carbon atoms, or CO₂H which is optionally substituted with halogen, and/or substituted with =O and/or-OH, and in which one C atom is optionally replaced with and O atom,
- Z₃ is, in each case independently, alkyl containing 1-5 carbon atoms, and
- n is, in each case independently, 0, 1, 2, or 3[[;]]

$$G_1 \qquad Q \qquad (II)$$

$$G_3 \qquad (II)$$

G₁, G₂, and G₃ are, in each case independently, C, O, S, or N,

D is a phenyl ring or a 5 or 6 membered saturated or partially or fully unsaturated heterocyclic ring containing 1, 2 or 3 heteroatoms selected from O, S, and N,

Q is a straight chain or branched alkylene or alkenylene group containing 1-5 carbon atoms, which is optionally substituted with =O and/or -OH, and in which optionally 1 or 2 carbon atoms, independently of each other, are replaced with an N or S atom,

Z₁ is, in each case independently, =O, halogen, or an alkyl group containing 1-5 carbon atoms, which is optionally substituted with =O and/or OH,

Z₂ is, in each case independently, =O, or an alkyl group containing 1-5 carbon atoms, which is optionally substituted with =O and/or -OH,

$$\begin{array}{c|c} G_{6} & G_{5} & G_{4} \\ \hline & G_{1} & G_{2} & G_{3} \\ \hline & (Z_{1})_{n} & (Z_{2})_{n} & (Z_{3})_{m} \end{array}$$

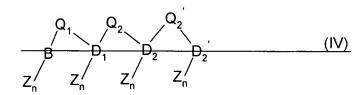
wherein.

G₁, G₂, G₃, G₄, G₅ and G₆—are, in each case independently, C, O, S, or N, such that four or five of G₁, G₂, G₃, G₄, G₅ and G₆ are C atoms and the remaining G₁, G₂, G₃, G₄, G₅ and G₆ are O, S, or N,

O is a bond or a straight chain or branched alkylene or alkenylene group containing 1-10

earbon atoms which is optionally substituted with =O in one or two places, and in which optionally 1 or 2 carbon atoms, independently of each other, are replaced with an N or O atom, and in which optionally a carbon atom is replaced with a 6-membered heterocyclic group containing 1 or 2 nitrogen atoms when the alkylene or alkenylene group is a straight chain group,

- Z₁ is, in each case independently, -OH, halogen, or an alkyl group containing 1-5 carbon atoms,
- Z₂ is, in each case independently, =O, halogen, or an alkyl group containing 1-10 carbon atoms which is optionally substituted with =O in one or two places and/or OH, and in which optionally 1 or 2 carbon atoms, independently of each other, are replaced with an N and/or S atom.
- Z₃— is, in each case independently, OH, halogen, -NO₂, an alkyl group containing 1-5 carbon atoms, in which optionally a carbon atom is replaced with an O atom, and which is optionally substituted with =O in one or two places, or is -O phenyl, wherein the phenyl group in the -O phenyl is optionally substituted with an -NO₂ group,



wherein,

B is a phenyl ring,

- D₊ is a phenylene ring or a 6-membered saturated or partially or fully unsaturated heterocyclic ring containing 1, 2, or 3 heteroatoms selected from O, S, and N,
- D₂-and-D₂' are, each independently of each other, absent or a phenyl or phenylene ring or a 5-or 6-membered saturated or partially or fully unsaturated heterocyclic ring containing 1, 2 or 3 heteroatoms selected from O, S, and N,

Q₊—is a bond or a branched or straight chain alkylene or alkenylene group containing 1–10 earbon atoms, which is optionally substituted with 1 to 5 = O and/or OH groups, in which optionally 1, 2, or 3 earbon atoms are, in each case independently, replaced with an N, O or S atom, wherein S is optionally substituted with 1 or 2 = O groups,

Q₂ and Q₂' are, each independently of each other, a bond or a branched or straight chain alkylene group containing 1-5 carbon atoms, which is optionally substituted with an =O group, in which optionally a carbon atom is replaced with an N, S, or O atom, wherein Q₂ is absent when D₂ is absent and Q₂' is absent,

is, in each case independently, =O, =S, OH, NH₂, NO₂, C=N, SO₃H, is halogen, or a straight chain or branched alkyl or alkenyl group containing 1 to 10, which is optionally substituted with 1 to 3 =O and/or OH groups, and in which optionally a carbon atom is replaced with an N, O or S atom, or is a cyclic alkyl group containing 3 carbon atoms, is, in each case independently, 0, 1, 2, 3, 4 or 5;

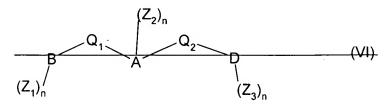
wherein.

Z is, in each case independently, -NO₂, an alkyl containing 1 to 5 carbon atoms, in-which optionally a carbon atom is replaced with an O atom, and which is optionally substituted with an =O group,

A is a straight chain alkylene group containing 1 to 5 carbon atoms, and n is 1, 2 or 3;

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wherein.

B is a phenyl ring,

D is absent, or is a phenyl ring or a 6-membered saturated or partially or fully unsaturated heterocyclic ring containing 1, 2, or 3 heteroatoms-selected from O, S, and N,

A is a 5-membered saturated or partially or fully unsaturated heterocyclic ring containing 1, 2, 3 or 4 heteroatoms selected from O, S, and N,

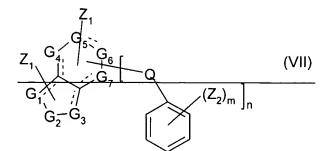
Q₁-and Q₂—are, in each case independently of each other, a bond or a straight chain or branched alkylene group containing 1-5 carbon atoms, in which optionally a carbon atom is replaced with an O, N or S atom, and in which optionally 1 or 2 - C - groups are replaced with -C= or -C - groups, and which is optionally substituted with an -O group, wherein Q₂ is absent when D is absent,

Z₁ is, in each case independently, NO₂, -OH, halogen, or an alkyl group containing 1-5 carbon atoms, which is optionally substituted with up to 3 =O and/or OH groups, and in which optionally a carbon atom is replaced with and N, S or O atom,

Z₂ is, in each case independently, NH₂, OH, =NH, =O, =S, phenyl, halogen, or an alkyl group containing 1-5 carbon atoms, which is optionally substituted with up to 3 =O and/or OH groups, and in which optionally a carbon atom is replaced with an S atom,

Z₃—is, in each case independently, =O, OH, NO₂, NH₂, halogen, or an alkyl group containing 1-5 carbon atoms, which is optionally substituted with up to 3 =O and/or OH groups, and in which optionally a carbon atom is replaced with an O atom, and

n is, in each case independently, 0, 1, 2 or 3;



G₊ to G₇ are, in each case independently, C, O, S, or N, wherein at least 3 of G₊ to G₇ are C atoms,

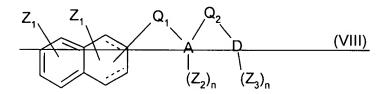
Z₁—is, in each case independently, absent, or =O, =NH or an alkyl group containing 1 to 5 carbon atoms.

Z₂ -- is, in each case independently, a straight chain or branched alkyl group containing 1 to 5 carbon atoms, in which optionally a carbon atom is replaced with an O atom, and which is optionally substituted with 1 or 2 =O and/or OH groups,

Q is, in each case independently, a bond or an alkylene group containing-1-5 carbon atoms, which is optionally substituted with =O, in which optionally 1, 2, or 3 carbon atoms are, in each case independently, replaced with an N or S atom, wherein S is optionally substituted with 1 or 2 =O groups, and

n --- is 0, 1 or 2, and

m is 1 or 2;



wherein,

A is a 5-membered saturated or partially or fully unsaturated heterocyclic ring containing 1, 2 or 3 heteroatoms selected from O, S, and N, or is a C₁₀-aromatic bi-cyclic ring containing 1, 2 or 3 heteroatoms selected from O, S, and N,

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D is absent or is a fully or partially saturated or unsaturated cyclic ring containing 6 or 7 carbon atoms,

- Q₁ and Q₂ are, each independently of each other, a bond or a straight chain or branched alkylene group containing 1–10 carbon atoms, which is optionally substituted with an =O group, and in which optionally 1, 2 or 3 carbon atoms, independently of each other, are replaced with an N or O atom, and wherein optionally 1–3 carbon atoms are replaced with a -C= and/or =C-, and/or when the alkylene group is straight chain with a phenyl group, wherein O₂ is absent when D is absent.
- Z₁ is, in each case independently, absent or an alkyl group containing 1 to 5 carbon atoms, in which optionally a carbon atom is replaced with an -O-group, and which is optionally substituted with one or two =O or OH groups,
- Z₂ is, in each case independently, =O or an alkyl group containing 1-5 carbon atoms, which is optionally substituted with =O in one or two places and/or -OH,
- Z₃ is halogen, or an alkyl group containing 1 to 5 carbon atoms, which is optionally halogenated, and

n is 1 or 2:



wherein.

- A is a 5- or 6- membered saturated or partially or fully unsaturated heterocyclic ring containing 2 or 3 heteroatoms selected from S and N,
- Z is, in each case independently, a straight chain or branched alkyl group containing 3-5 carbon atoms, which is substituted with =O and/or OH groups, and in which a carbon atom is replaced with an S atom, and

n is 1, 2, or 3;

G₁-to G₁₂ are, each independently of each other, C, N, S or O,

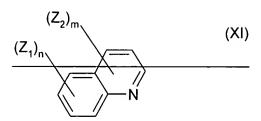
Z is, in each case independently, an alkyl containing 1 to 5 carbon atoms, which is optionally substituted with 1 to 2 = O and/or -OH groups,

Q is a bond or an alkylene group containing 1 to 5 carbon atoms,

m = 0, 1, 2 or 3,

n 0, 1, 2 or 3, such that

 $m+n \ge 1;$



wherein,

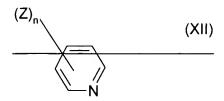
Z₁— is, in each case independently, halogen, -NO₂-or-OH,

Z₂—is, in each case independently, an alkyl group containing 1-5 carbon atoms, which is optionally substituted with an =O and/or -OH group, and in which optionally a carbon atom is replaced with an S atom,

n - is 0, 1, 2, or 3,

m is 0, 1, 2, or 3, and

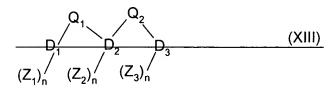
n + m is 3 or more;



wherein.

Z is, in each case independently, C=N, halogen, or an alkyl group containing 1-5 carbon atoms, which is optionally substituted with halogen, and/or is substituted with one or more =O and/or OH groups, and in which optionally a carbon atom is replaced with an S atom, and

n is 2, 3, 4 or 5;



wherein.

- D₁ is a 5- or 6-membered saturated or partially or fully unsaturated heterocyclic ring containing 1, 2, or 3 heteroatoms selected from O, S, and N,
- D₂—is a 6-membered saturated or partially or fully unsaturated heterocyclic ring containing 1, 2, or 3-heteroatoms selected from O, S, and N, or is optionally a phenylene group when D₃ is present,
- D₃ is absent or a 5- or 6-membered saturated or partially or fully unsaturated heterocyclic ring containing 1, 2, or 3 heteroatoms selected from O, S, and N,
- Q₊ is -O , or a straight chain alkylene group containing 1-5 carbon atoms, in which optionally a carbon atom is replaced with an N, O or S atom, and which is optionally substituted with an -O atom.
- Q₂ is absent when D₃ is absent or is a bond or an O-group,
- Z_1 is, in each case independently, =0 or halogen,
- Z₂ is, in each case independently, =0, C=N, COOH, NO₂ or halogen,
- Z₃ is, in each case independently, halogen, and is absent when D₃ is absent, and

n is, in each case independently, 0, 1, 2, or 3;

wherein,

B- is a phenylene group,

Q- is a straight chain alkylene group containing 1-10 carbon atoms, in which optionally up to three carbon atoms are replaced with an N, O or S atom, and which is optionally substituted with 1 or 2 = O groups,

Z is, in each case independently, halogen, or an alkyl group containing 1-5 carbon atoms, in which optionally a carbon atom is replaced with an O atom,

n is 0 or 1, and

m is 1 or 2;

wherein,

D - is, a 6-membered saturated or partially or fully unsaturated heterocyclic ring containing 1, 2, or 3 heteroatoms selected from O, S, and N,

 $\frac{Z}{is} = 0$

$$n - is 1, or 2;$$

wherein.

Q is, each independently, C or N, wherein,

Z₊ is a phenyl group, or 2 of Z₊ together form with the Q atoms to which they are bound a 6membered aromatic ring containing only C atoms,

Z₂ is halogen, preferably Cl, and

n is 1, or 2;

wherein,

D- is, a carbocyclic group containing 8 to 10 carbon atoms, and

R— is—OH or an alkyl group containing 1 to 5 carbon atoms, in which optionally a carbon atom is replaced with an N or O atom or with a phenyl group, and which is optionally substituted with 1 to 2 =O and/or OH groups.

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(withdrawn) A pharmaceutical composition comprising a compound of formula I to
 XVII or a pharmaceutically acceptable salt thereof

$$(Z_2)_n \xrightarrow{B} A \xrightarrow{A} O \xrightarrow{D} (Z_2)_n$$
 (I)

wherein,

B is a phenyl ring,

D is a phenyl ring or a 5-membered saturated or partially or fully unsaturated heterocyclic ring containing 1, 2 or 3 heteroatoms selected from O, S, and N,

A is, in each case independently of each other, a 5-membered saturated or partially or fully unsaturated heterocyclic ring containing 1, 2 or 3 heteroatoms selected from O, S, and N,

Q is a bond or an alkylene or alkenylene group containing 1-5 carbon atoms, which is optionally substituted with =O, and in which optionally a carbon atom is replaced with an N atom,

 Z_1 is, in each case independently, -NH₂, =O, =NH, or =N-phenyl, -phenyl, or alkyl containing 1 to 5 carbon atoms.

is, in each case independently, -OH, halogen, alkyl containing 1-5 carbon atoms, which is optionally substituted with halogen, and/or substituted with =O and/or -OH, and in which one C atom is optionally replaced with and O atom,

Z₃ is, in each case independently, alkyl containing 1-5 carbon atoms, and

n is, in each case independently, 0, 1, 2, or 3;

$$G_1 \qquad Q \qquad (Z_2)_m \qquad (II)$$

$$(Z_1)_n \qquad (Z_2)_m \qquad (II)$$

G₁, G₂, and G₃ are, in each case independently, C, O, S, or N,

- D is a phenyl ring or a 5- or 6-membered saturated or partially or fully unsaturated heterocyclic ring containing 1, 2 or 3 heteroatoms selected from O, S, and N,
- Q is a straight chain or branched alkylene or alkenylene group containing 1-5 carbon atoms, which is optionally substituted with =O and/or -OH, and in which optionally 1 or 2 carbon atoms, independently of each other, are replaced with an N or S atom,
- Z₁ is, in each case independently, =O, halogen, or an alkyl group containing 1-5 carbon atoms, which is optionally substituted with =O and/or -OH,
- is, in each case independently, =O, or an alkyl group containing 1-5 carbon atoms, which
 is optionally substituted with =O and/or -OH,
- n is 0, 1, or 2, and
- m is 0, or 1;

$$\begin{array}{c|c}
G_{6} & G_{5} & G_{4} \\
G_{1} & G_{2} & G_{3} \\
(Z_{1})_{n} & (Z_{2})_{n} & (Z_{3})_{m}
\end{array}$$
(III)

- G₁, G₂, G₃, G₄, G₅ and G₆ are, in each case independently, C, O, S, or N, such that four or five of G₁, G₂, G₃, G₄, G₅ and G₆ are C atoms and the remaining G₁, G₂, G₃, G₄, G₅ and G₆ are O, S, or N,
- Q is a bond or a straight chain or branched alkylene or alkenylene group containing 1-10 carbon atoms which is optionally substituted with =O in one or two places, and in which optionally 1 or 2 carbon atoms, independently of each other, are replaced with an N or O atom, and in which optionally a carbon atom is replaced with a 6-membered heterocyclic group containing 1 or 2 nitrogen atoms when the alkylene or alkenylene group is a straight chain group,

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- Z₁ is, in each case independently, -OH, halogen, or an alkyl group containing 1-5 carbon atoms,
- is, in each case independently, =O, halogen, or an alkyl group containing 1-10 carbon atoms which is optionally substituted with =O in one or two places and/or -OH, and in which optionally 1 or 2 carbon atoms, independently of each other, are replaced with an N and/or S atom,
- is, in each case independently, -OH, halogen, -NO₂, an alkyl group containing 1-5 carbon atoms, in which optionally a carbon atom is replaced with an O atom, and which is optionally substituted with =O in one or two places, or is -O-phenyl, wherein the phenyl group in the -O-phenyl is optionally substituted with an -NO₂ group,
- n is 0, 1, or 2, and
- m is 0, 1, 2, or 3;

$$Z_{n}^{Q_{1}}$$
 $Z_{n}^{Q_{2}}$ $Z_{n}^{Q_{2}}$ $Z_{n}^{Q_{2}}$ (IV)

- B is a phenyl ring,
- D₁ is a phenylene ring or a 6-membered saturated or partially or fully unsaturated heterocyclic ring containing 1, 2, or 3 heteroatoms selected from O, S, and N,
- D₂ and D₂' are, each independently of each other, absent or a phenyl or phenylene ring or a 5or 6-membered saturated or partially or fully unsaturated heterocyclic ring containing 1, 2 or 3 heteroatoms selected from O, S, and N,
- Q₁ is a bond or a branched or straight chain alkylene or alkenylene group containing 1-10 carbon atoms, which is optionally substituted with 1 to 5 =O and/or OH groups, in which optionally 1, 2, or 3 carbon atoms are, in each case independently, replaced with an N, O or S atom, wherein S is optionally substituted with 1 or 2 =O groups,
- Q₂ and Q₂' are, each independently of each other, a bond or a branched or straight chain

alkylene group containing 1-5 carbon atoms, which is optionally substituted with an =O group, in which optionally a carbon atom is replaced with an N, S, or O atom, wherein Q_2 is absent when D_2 is absent and Q_2 ' is absent when D_2 ' is absent,

- is, in each case independently, =O, =S, -OH, -NH₂, -NO₂, -C≡N, -SO₃H, is halogen, or a straight chain or branched alkyl or alkenyl group containing 1 to 10, which is optionally substituted with 1 to 3 =O and/or OH groups, and in which optionally a carbon atom is replaced with an N, O or S atom, or is a cyclic alkyl group containing 3 carbon atoms, is, in each case independently, 0, 1, 2, 3, 4 or 5;
- (Z)n OH OH (V)

wherein,

- Z is, in each case independently, -NO₂, an alkyl containing 1 to 5 carbon atoms, in which optionally a carbon atom is replaced with an O atom, and which is optionally substituted with an =O group,
- A is a straight chain alkylene group containing 1 to 5 carbon atoms, and n is 1, 2 or 3;

$$(Z_1)_n \qquad Q_2 \qquad D \qquad (VI)$$

$$(Z_1)_n \qquad (Z_3)_n \qquad (VI)$$

- B is a phenyl ring,
- D is absent, or is a phenyl ring or à 6-membered saturated or partially or fully unsaturated heterocyclic ring containing 1, 2, or 3 heteroatoms selected from O, S, and N,

A is a 5-membered saturated or partially or fully unsaturated heterocyclic ring containing 1, 2, 3 or 4 heteroatoms selected from O, S, and N,

- Q₁ and Q₂ are, in each case independently of each other, a bond or a straight chain or branched alkylene group containing 1-5 carbon atoms, in which optionally a carbon atom is replaced with an O, N or S atom, and in which optionally 1 or 2 -C- groups are replaced with -C= or =C- groups, and which is optionally substituted with an =O group, wherein Q₂ is absent when D is absent,
- Z₁ is, in each case independently, -NO₂, -OH, halogen, or an alkyl group containing 1-5 carbon atoms, which is optionally substituted with up to 3 =O and/or OH groups, and in which optionally a carbon atom is replaced with and N, S or O atom,
- is, in each case independently, -NH₂, -OH, =NH, =O, =S, phenyl, halogen, or an alkyl group containing 1-5 carbon atoms, which is optionally substituted with up to 3 =O and/or OH groups, and in which optionally a carbon atom is replaced with an S atom,
- Z₃ is, in each case independently, =O, -OH, NO₂, NH₂, halogen, or an alkyl group containing 1-5 carbon atoms, which is optionally substituted with up to 3 =O and/or OH groups, and in which optionally a carbon atom is replaced with an O atom, and
- n is, in each case independently, 0, 1, 2 or 3;

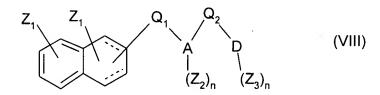
$$Z_{1} G_{5} G_{6} G_{7} G_{7$$

wherein,

G₁ to G₇ are, in each case independently, C, O, S, or N, wherein at least 3 of G₁ to G₇ are C atoms,

Z₁ is, in each case independently, absent, or =O, =NH or an alkyl group containing 1 to 5 carbon atoms,

- Z₂ is, in each case independently, a straight chain or branched alkyl group containing 1 to 5 carbon atoms, in which optionally a carbon atom is replaced with an O atom, and which is optionally substituted with 1 or 2 =O and/or -OH groups,
- Q is, in each case independently, a bond or an alkylene group containing 1-5 carbon atoms, which is optionally substituted with =O, in which optionally 1, 2, or 3 carbon atoms are, in each case independently, replaced with an N or S atom, wherein S is optionally substituted with 1 or 2 =O groups, and
- n is 0, 1 or 2, and
- m is 1 or 2;



- A is a 5-membered saturated or partially or fully unsaturated heterocyclic ring containing 1, 2 or 3 heteroatoms selected from O, S, and N, or is a C₁₀ aromatic bi-cyclic ring containing 1, 2 or 3 heteroatoms selected from O, S, and N,
- D is absent or is a fully or partially saturated or unsaturated cyclic ring containing 6 or 7 carbon atoms,
- Q₁ and Q₂ are, each independently of each other, a bond or a straight chain or branched alkylene group containing 1-10 carbon atoms, which is optionally substituted with an =O group, and in which optionally 1, 2 or 3 carbon atoms, independently of each other, are replaced with an N or O atom, and wherein optionally 1-3 carbon atoms are replaced with a -C= and/or =C-, and/or when the alkylene group is straight chain with a phenyl group, wherein Q₂ is absent when D is absent,
- Z₁ is, in each case independently, absent or an alkyl group containing 1 to 5 carbon atoms, in which optionally a carbon atom is replaced with an -O- group, and which is optionally substituted with one or two =O or -OH groups,

- is, in each case independently, =O or an alkyl group containing 1-5 carbon atoms, which
 is optionally substituted with =O in one or two places and/or -OH,
- Z₃ is halogen, or an alkyl group containing 1 to 5 carbon atoms, which is optionally halogenated, and
- n is 1 or 2;

$$A^{(Z)}_n$$
 (IX)

- A is a 5- or 6- membered saturated or partially or fully unsaturated heterocyclic ring containing 2 or 3 heteroatoms selected from S and N,
- Z is, in each case independently, a straight chain or branched alkyl group containing 3-5 carbon atoms, which is substituted with =O and/or OH groups, and in which a carbon atom is replaced with an S atom, and
- n is 1, 2, or 3;

$$Z_{n}$$
 $G_{2}^{--}G_{3}$ G_{4} $G_{7}^{--}G_{8}$ Z_{m} G_{12} G_{11} G_{10} G_{10}

wherein,

 G_1 to G_{12} are, each independently of each other, C, N, S or O,

- Z is, in each case independently, an alkyl containing 1 to 5 carbon atoms, which is optionally substituted with 1 to 2 =O and/or -OH groups,
- Q is a bond or an alkylene group containing 1 to 5 carbon atoms,

m 0, 1, 2 or 3,

n 0, 1, 2 or 3, such that

 $m+n \geq 1$;

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$$(Z_1)_n$$
 (XI)

wherein,

Z₁ is, in each case independently, halogen, -NO₂ or -OH,

Z₂ is, in each case independently, an alkyl group containing 1-5 carbon atoms, which is optionally substituted with an =O and/or -OH group, and in which optionally a carbon atom is replaced with an S atom,

n is 0, 1, 2, or 3,

m is 0, 1, 2, or 3, and

n + m is 3 or more;

$$(Z)_n$$
 (XII)

wherein,

Z is, in each case independently, -C≡N, halogen, or an alkyl group containing 1-5 carbon atoms, which is optionally substituted with halogen, and/or is substituted with one or more =O and/or -OH groups, and in which optionally a carbon atom is replaced with an S atom, and

n is 2, 3, 4 or 5;

D₁ is a 5- or 6-membered saturated or partially or fully unsaturated heterocyclic ring containing 1, 2, or 3 heteroatoms selected from O, S, and N,

D₂ is a 6-membered saturated or partially or fully unsaturated heterocyclic ring containing 1,
2, or 3 heteroatoms selected from O, S, and N, or is optionally a phenylene group when
D₃ is present,

D₃ is absent or a 5- or 6-membered saturated or partially or fully unsaturated heterocyclic ring containing 1, 2, or 3 heteroatoms selected from O, S, and N,

Q₁ is -O-, or a straight chain alkylene group containing 1-5 carbon atoms, in which optionally a carbon atom is replaced with an N, O or S atom, and which is optionally substituted with an =O atom,

 Q_2 is absent when D_3 is absent or is a bond or an -O- group,

 Z_1 is, in each case independently, =O or halogen,

 Z_2 is, in each case independently, =O, -C \equiv N, -COOH, -NO₂ or halogen,

Z₃ is, in each case independently, halogen, and is absent when D₃ is absent, and

n is, in each case independently, 0, 1, 2, or 3;

$$(Z)_{m}$$
 (XIV)

B is a phenylene group,

- Q is a straight chain alkylene group containing 1-10 carbon atoms, in which optionally up to three carbon atoms are replaced with an N, O or S atom, and which is optionally substituted with 1 or 2 = O groups,
- Z is, in each case independently, halogen, or an alkyl group containing 1-5 carbon atoms, in which optionally a carbon atom is replaced with an O atom,

n is 0 or 1, and

m is 1 or 2;

wherein,

D is, a 6-membered saturated or partially or fully unsaturated heterocyclic ring containing 1, 2, or 3 heteroatoms selected from O, S, and N,

Z is =0

n is 1, or 2;

- Q is, each independently, C or N, wherein,
- Z₁ is a phenyl group, or 2 of Z₁ together form with the Q atoms to which they are bound a 6-membered aromatic ring containing only C atoms,
- Z₂ is halogen, preferably Cl, and
- n is 1, or 2;

- D is, a carbocyclic group containing 8 to 10 carbon atoms, and
- R is -OH or an alkyl group containing 1 to 5 carbon atoms, in which optionally a carbon atom is replaced with an N or O atom or with a phenyl group, and which is optionally substituted with 1 to 2 =O and/or -OH groups.
- 4. (withdrawn) A method of claim 1, wherein immunosuppression is affected.
- 5. (withdrawn) A method of claim 1, wherein said patient suffers from an autoimmune disease or from transplant rejection.
- 6. (withdrawn) A method of claim 5, wherein said patient suffers from rheumatoid arthritis.
- 7. (original) A method of claim 1, wherein said patient suffers from a neoplasm or a hyperplasia.

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8. (original) A method of claim 7, wherein said patient suffers from a benign or malignant tumor.

- 9. (withdrawn) A method of claim 1, wherein said patient suffers from a depressed immune system.
- 10. (currently amended) A method of claim 1, wherein said patient suffers from leukemia, lymphoma, ovarian cancer or and breast cancer.
- 11. (original) A method of claim 1, wherein said patient is human.
- 12. (currently amended) A method of claim 1, wherein one of the following compounds or a pharmaceutically acceptable salt thereof is administered

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13. (currently amended) A method of claim 2, wherein one of the following compounds or a pharmaceutically acceptable salt thereof is administered

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14. (withdrawn) A pharmaceutical composition according to claim 3, comprising one of the following compounds or a pharmaceutically acceptable salt thereof

- 15. (withdrawn) A method of claim 12, wherein the compound 73 or 92 or a pharmaceutically acceptable salt thereof is administered.
- 16. (withdrawn) A method of claim 13, wherein the compound 73 or 92 or a pharmaceutically acceptable salt thereof is administered.
- 17. (withdrawn) A pharmaceutical composition according to claim 14, comprising the compound 73 or 92 or a pharmaceutically acceptable salt thereof.
- 18. (currently amended) A method of claim 1, wherein the compound of <u>formula 1</u> formulae I to XVII has a solubility such that the ClogP value is ≤ 5 , a molecular weight of ≤ 500 Daltons, and ≤ 10 hydrogen bond donors and acceptors.
- 19. (currently amended) A method of claim 2, wherein the compound of <u>formula I formulae</u> I to XVII has a solubility such that the ClogP value is ≤ 5 , a molecular weight of ≤ 500 Daltons, and ≤ 10 hydrogen bond donors and acceptors.
- 20. (withdrawn) A pharmaceutical composition according to claim 3, wherein the compound of formulae I to XVII has a solubility such that the ClogP value is ≤ 5 , a molecular weight of \leq 500 Daltons, and ≤ 10 hydrogen bond donors and acceptors.
- 21. (currently amended) A method according to claim 1 comprising administering an effective amount of a compound <u>formula I formulae I to IX</u> or a pharmaceutically acceptable salt thereof.
- 22. (original) A method according to claim 2 comprising administering a compound of formula I to IX or a pharmaceutically acceptable salt thereof.
- 23. (withdrawn) A pharmaceutical composition according to claim 3 comprising a

compound of formula I to IX or a pharmaceutically acceptable salt thereof.

24. (new) A method of claim 1, wherein the compound is

25. (new) A method of claim 1, wherein the compound is